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WEITERE INFORMATIONEN OK

An unending variety of topics

Friday, June 19, 2009

Ice rockets earthside

It pulls hundreds of times the g's over far less time than what I had in mind, but I do seem to have helped inspire Lenape Fire Turtle and friends. Their ice rocket is even reported to have stayed in one piece until it hit the pavement:

Next Fire Turtle tried to make a pulse jet motor out of ice injected with propane. Alas, the exhaust came out a hole melted in the side instead of the hole intended. If you look closely at the start of the side view portion of the video (the second half), you can already see the flaw in the casting where the ice is thin and the hole will appear:

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About Me

Nick Szabo

"A premier thinker about history, law and economics, and the lessons they have for security." -- Adam Shostack, Emergent Chaos

"Szabo comes out with these essays that leave me in awe." -- Brian Dunbar

"Reading material that is eclectic, challenging and endlessly fascinating." -- Sean McGrath, Propylon

"Like most blogs worth my attention, this blog is updated only infrequently. That is because the authors of blogs worth my attention only post when they have something to say that is true, relevant and not already known by their audience. Most of the human race does not have the skill to know when an idea has these three properties. The skill is particularly rare in the fields of politics and economics, which is why this blog is such a rare and valuable thing." -- Richard Hollerith

View my complete profile

Having looked ahead to a future when the economics and technologies become propitious, my own proposal was to take a grinder to an ice cylinder floating in space, melt the resulting ice flakes into water, and feed that liquid into a solar thermal rocket engine. The small snow-cone machine would gradually eat up most of the ice on the multi-year voyage from comet (or Ceres, or similar) to market. Alternatively, ammonia might be extracted from the comet and stored as a liquid inside a tank made from water ice, adding complication to the extraction process but greatly increasing the efficiency of the rocket motor and thus the mass of water ice, ammonia, or other comet stuff brought to market. More explanations of these icy and muddy daydreams lie here. When I was a kid in body as well as at heart I just stomped around in mudpuddles.

The ice rocket could in that future eliminate the need to launch from earth not just rocket propellant, but also propellant tanks -- or more precisely substitute a much lighter coat of sealing paint and sun shade for the tanks. A well-shaded vacuum can become extremely cold, preventing the ice from sublimating away. After propellant, tanks are by far the heaviest and bulkiest items that today must be launched out of our planet's deep gravity well, and ice rockets could substitute native materials for both.

Meanwhile, it's all just good clean terrestrial fun.

P.S. I also like the search engine.

Posted by Nick Szabo at 12:51 AM

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